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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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Intellectual Property Office
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PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Rule 71.1)

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Date of mailing (day/month/year)	13.09.2004

Applicant's or agent's file reference	IMPORTANT NOTIFICATION
MO2B148/MW	

International application No.	International filing date (day/month/year)	Priority date (day/month/year)
PCT/GB 03/03503	12.08.2003	23.08.2002

Applicant
THE BOC GROUP PLC et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:

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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
MO2B148/MW		

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/GB 03/03503	12.08.2003	23.08.2002

International Patent Classification (IPC) or both national classification and IPC

A23G9/02

Applicant

THE BOC GROUP PLC et al.

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
12.03.2004	13.09.2004

Name and mailing address of the international preliminary examining authority:	Authorized Officer
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB 03/03503

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an Invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-14 as originally filed

Claims, Numbers

1-21 received on 26.05.2004 with letter of 25.05.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☒ the claims, Nos.: 22
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-19,21
	No:	Claims	20
Inventive step (IS)	Yes:	Claims	1-19,21
	No:	Claims	20
Industrial applicability (IA)	Yes:	Claims	1-21
	No:	Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reference is made to the following documents:

D1: WO 02/49445 A (BOURKE NEIL JOSEPH; QUEST Intern. B V (NL)) 27 June 2002 (2002-06-27)
D2: US-B-6 349 5491 (ANGUS NICHOLAS W ET AL) 26 February 2002 (2002-02-26)
D3: Kondratowicz J.: "New Technologies using liquid nitrogen in the food industry", 2001, see abstract from: FSTA 2002-00-e0571, ISSN 0009-4919.

Document D3 was added by the examiner, a copy is enclosed with this communication.

1 Novelty and inventive step of claim 1 and dependent claims

1.1 The use of solid, powdered fat in ice cream is known from D1.
However, a method of making ice cream using cryogenically (= fat is pre-crystallized with cryogen at temperatures below - 50°C, see application page 3) precrystalized fat in ice cream is new over the prior art.

To the knowledge of the examiner, non of the prior art documents suggests or allows the skilled person to deduct in an obvious way the use of cryogenically precrystalized fat in making ice cream.
Claim 1 and the dependent claims are new and involve an inventive step over the prior art (Art. 33(2) and (3) PCT).

1.2 Claim 21 is about a kit for making ice cream at home, including a package of cryogenically precrystallized particles of fat.
Premixes for making ice cream at home are known in the art.
However, a kit comprising *cryogenically* precrystallized particles of fat is new over the prior art.
Furthermore, the prior art does not suggest nor gives obvious indications about such an ice cream kit.
Claim 21 is new and inventive over the prior art (Art. 33(2) and (3) PCT).

2 Novelty and inventive step of claim 20

Claim 20 is about a package comprising cryogenically precrystallized particles of

edible fat.
D3 is about the advantages of cryogenically precrystallized particles of edible fat in domestic and restaurant environments. Therefor the cryogenically precrystallized fat has to be transported from the production site to the domestic or restaurant places in appropriate packages.
Claim 20 is neither novel nor inventive over D3.

3 The industrial applicability is acknowledged for all claims (see examples and context of application), Art. 33(4) PCT.

CLAIMS

1. A method of making ice cream, including the steps of blending in the presence of at least one emulsifier an aqueous ice cream precursor phase with precrystallised particles of edible fat which each contain a multiplicity of individual crystals so as to form a dispersion, and gasifying and freezing the dispersion so as to form an ice cream, in which the particles of edible fat are precrystallised cryogenically.

2. A method according to claim 1, in which the cryogenic precrystallisation is performed by forming the edible fat into fine particles in molten state and contacting the fine particles with a cryogen.

3. A method according to claim 2, in which a spray of liquid cryogen is directed at the fine particles of edible fat in molten state.

4. A method according to claim 2 or claim 3, in which the liquid cryogen is liquid nitrogen.

5. A method according to any one of the preceding claims, in which the precrystallised particles of edible fat take the form of a globule containing a mass of crystals of fat with entrapped pockets of oil.

6. A method according to any one of the preceding claims, in which all the dispersed fat particles in the dispersion have a size less than 30µm.

7. A method according to claim 6, in which most or all the precrystallised particles have a size less than 10µm.

8. A method according to claim 6 or claim 7, in which most or all of the precrystallised particles have a size of 5µm or less.

9. A method according to any one of the preceding claims, in which the edible fat is pasteurised before being precrystallised.

10. A method according to any one of the preceding claims, in which the aqueous phase is pasteurised before being blended with the precrystallised edible fat particles.

11. A method according to any one of the preceding claims, in which an emulsifier is introduced into the edible fat before it is precrystallised.

12. A method according to claim 11, in which the emulsifier is a lipophilic emulsifier.

13. A method according to claim 12, in which the lipophilic emulsifier is a saturated monoglyceride.

14. A method according to claim 13, in which the saturated monoglyceride is a glycerol monostearate.

15. A method according to any one of the preceding claims, in which the edible fat is milk fat, anhydrous milk fat, at least one milk fat fraction, a hydrogenated vegetable oil, a hard tropical fat, or a hydrogenated tropical fat.

16. A method according to any one of the preceding claims, in which the aqueous phase contains a highly surface active, water soluble emulsifier.

17. A method according to any one of the preceding claims, in which the aqueous phase contains non-fat dry milk solids and sugar.

18. A method according to any one of the preceding claims, in which the said dispersion is gasified and frozen without being subjected to homogenisation or ageing.

19. A method according to claim 18, in which the dispersion is presented at below ambient temperature for freezing.

20. A package comprising cryogenically precrystallised particles of edible fat.

21. A kit for making ice cream in the home comprising a package according to claim 20 and instructions for the use of the contents of the package in the preparation of ice cream.